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ABSTRACT

This article traces the historical development of Ivory Coast's educational television system. Included are: (1) background information and initial planning, (2) structural organization including evaluation and maintenance, (3) provisions for inservice teacher training and adult education, (4) written materials production, and (5) program evolution. In addition to the television hardware, a completely revamped curricular program conceived in Ivory Coast for Ivorians was developed. The Ivorian educational television project is seen as a major tool for development, intended to benefit the overall youth of the country as well as the adult rural population. (Author/STS)

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# TECHNOLOGY AND EDUCATIONAL REFORM:

# THE CASE OF IVORY COAST

by

Stephen H. Grant

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# INSTRUCTIONAL TECHNOLOGY REPORT

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## TECHNOLOGY AND EDUCATIONAL REFORM: THE CASE OF IVORY COAST

By STEPHEN H. GRANT*

*(The Ivory Coast is one of the most prosperous nations in West Africa: it boasts political stability (one Party and one President since independence was gained from France in 1960), a diversified agriculture, rapidly increasing industrial capabilities and a liberal policy toward foreign investors. In spite of these facts which credit the country, Ivory Coast has nonetheless achieved a discrediting reputation, of being "more French than the French," and of catering to a luxury class. Neighboring Ghanaians quip, "Yes, our country is bordered by Togo on one side and France on the other!" When the traveler flies on UTA Airlines from Ouagadougou, Upper Volta to Abidjan, the capital of Ivory Coast, he contrasts the geography surrounding the airports: dry wasteland with a few sun-dried mud huts in Ouaga, and lush rubber tree and coconut tree plantations along the lagoon in Abidjan. Then in the Ivorian capital he is taken aback by the opulence of the Inter-Continental Hotel, by the idiosyncrasy of its indoor skating rink, and by the prime land on the city limits devoted to an 18-hole golf course.*

*This introduction constitutes neither a denigration nor a travelogue; it is a portrayal of the mental set with which many outsiders view development in Ivory Coast. No wonder, then, that when the Ivorian government announced in 1969 that every elementary school classroom would have its TV set, critics shook their skeptical heads. Another imported luxury!*

*The present article is not concerned with myths, reputations, or comparisons. It will instead trace the historical development of Ivory Coast's educational television system, upon which evidence readers may form their own judgment. Having read the article, readers may classify the Ivory Coast plan as among the most expensive educational reforms any developing country has engaged in. However, they will also see that while the TV set can qualify in some cases as a luxury import, in Ivory Coast it is a tool of development. The hardware is only part of the story because a completely revamped curricular program conceived in Ivory Coast for Ivorians has been developed. They will recognize also that the intended beneficiaries of the program are first, not foreigners, and second, not an elite age group or an elite "class" of Ivorians. The program represents a massive investment in two major contributors to national development: the overall youth of the country and the adult rural dweller who is established in his agricultural setting.)*

### PART I**

### BACKGROUND AND INITIAL PLANNING OF THE PROJECT

Despite the country's "economic miracle" often referred to in the foreign press, Ivory Coast in the late 1960s suffered from the same set of educational ills prevalent in other developing countries:

- a high repeater rate (over 30%)
- a drop-out rate of just under 16%
- an insufficient number of teachers (one teacher for 70 pupils)
- a low quality of teacher training
- a bookish curriculum, ill-adapted to the country's geographical, economic, and social realities
- a regional imbalance in levels of enrollment, favoring the coastal areas (an average level of 40% with low of 5% and high of 95%).

(These official statistics apply to the elementary school system.)

The alarming conclusions of its educational stock-taking caused the Ministry of Education to turn once more to France, its former colonial power, for policy planning and implementation. At the time France was just getting the first positive results from the elementary school ETV pilot project in the Niger River Valley in Niamey. It saw the promise of applying TV to Ivory Coast on a nation-wide basis, where in Niger the

*(Continued on page 2)*

*Stephen Grant worked in Bouaké, Ivory Coast at the ETV Complex from 1970 to 1974. He completed his doctoral dissertation while teaching part-time as a UNESCO consultant at the teacher training school there. Subsequently he served as an evaluation specialist to the ETV program under a U.S. Agency for International Development/Academy for Educational Development contract. Dr. Grant recently joined the staff of the Information Center as a Research Specialist and also serves the Academy's Washington office as a Program Officer for Educational Technology Projects.

**Part II, summarizing the evaluation studies completed on this project as it has been developing, will be published in the December issue of *Instructional Technology Report*. A summary in Spanish of both Parts I and II will also be part of the December issue.

*(Continued from page 1)*

## BACKGROUND AND INITIAL PLANNING OF THE PROJECT

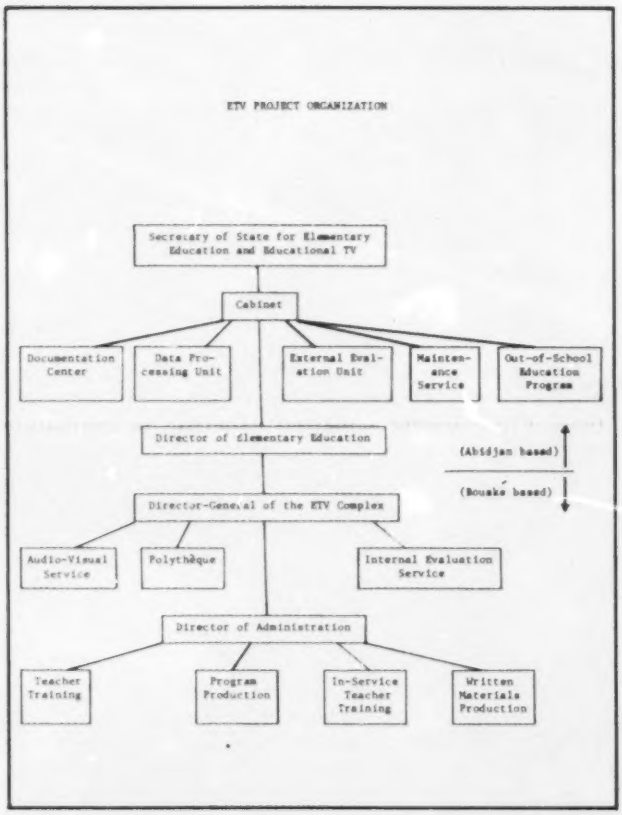
existence of vast areas unreached by a TV transmitter discouraged any ideas of expansion of that experimental program. The State TV network in Ivory Coast was already reaching two-thirds of the national territory, and some 20,000 TV sets had been distributed to private homes. France was interested in using the Niger experience as a springboard for more total extension of a national educational TV system, but it needed additional financial backing. Ivory Coast contacted Unesco in Paris, which already was funding projects in secondary education and teacher training in Ivory Coast; they were also attracted to the idea. There are no signs that alternatives to TV as the major component in Ivorian educational reform were considered.

Ivory Coast never thought of TV as an add-on gadget to the classroom. From the beginning top-to-bottom reform was planned which would include curriculum development with printed materials for both pupils and teachers; new teacher training institutions and remodeling of the old; and campaigns through radio and the press to give pedagogical support to teachers, especially in areas not under TV coverage. By the time the Unesco planners got finished with it, the TV day was more than full: an early morning telecast to teachers announcing the program of the day and emphasizing drills or exercises to be used, four morning hours of TV programs, for grades 1 to 4, divided into 20-minute segments of major subject materials. In the afternoon the upper level elementary school pupils would receive their hour of televised instruction, followed by a program for a two-year "post-primary" cycle. Teachers in the field and adults would not be left out either.

Other planning studies calculated the estimated unit cost of educating an elementary school pupil with the new system. Compared to a 1967 rate of 1350 CFA francs annual unit cost, the new system could allegedly increase budget allocations for equipment and materials, greatly increase the pool of pedagogical advisors to monitor TV teaching, reduce the class size to 44 pupils, improve teacher training, and install a TV production, transmission, and reception system — all at an annual per pupil cost of 5610 CFA francs (for a pupil population of 500,000). These, then, were the basic elements of programming and unit cost predictions as they were estimated in the planning documents.

Beside making year-by-year projections of ETV operational development up to 1980, Ivory Coast also commissioned special research studies. One study treated evaluation as it had been carried out in educational TV projects in El Salvador, American Samoa, and nearby Niger, including special recommendations for the Ivory Coast ETV venture. Another brought together annotated bibliographies of research conducted in both French-speaking and English-speaking Africa in the fields of social science and child development. In all, three years of planning and special studies preceded the first telecasts of October 1971.

## STRUCTURAL ORGANIZATION OF THE ETV PROGRAM: WHO DOES WHAT?




In Ivory Coast a Minister of Education is responsible for the pre-school through the Higher Education levels of both public and private institutions. There are directors of elementary and secondary education plus a rector (an Ivorian since June 1974) at the University of Abidjan. In 1972 the Minister named a special deputy to manage the ETV program: his official title is Secretary of State for Elementary Education and Educational Television. His cabinet is composed of Ivorian civil servants (mostly former teachers and school administrators like the Secretary himself) plus expatriate advisors representing the three major contributors: the French government, Unesco, and the Canadian government. Also under the ETV Secretary's immediate supervision, and located in the capital city, are four service units and one programming unit: a documentation center, a data processing unit, an external evaluation unit, a maintenance service, and an out-of-school education program. The Abidjan-based cabinet, services, and program employ approximately 65 professional staff.

The Unesco-funded ***documentation center*** collects materials on educational technology projects in developing countries and circulates bulletins, composed of summaries of pertinent documents and bibliographical references, to the ETV program staff.

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## STRUCTURAL ORGANIZATION

The ***data processing unit*** is jointly financed by Ivory Coast, France, and Unesco. It does not own a computer, but has facilities to perform the ancillary tasks of programming, data coding, card punching, and sorting. It rents computer time elsewhere, and works not only on ETV inventories, surveys, feedback questionnaires, and the like, but also provides its services to Ministries outside of National Education.

The ***external evaluation unit*** receives funding from a different source than all the other ETV units. All contributing countries to the Ivory Coast educational experiment expressed interest, if not a stated condition for support, in a continuous evaluative monitoring of the ETV program organization, operations, and results. Ivory Coast sought impartial expertise in evaluation from countries uninvolved in the operations of the ETV program. The Ivorians preferred that neither the French nor Unesco nor Canada be placed in the difficult position of having to evaluate themselves as well as evaluating others. At the outset of the project no funding agencies had accepted Ivory Coast's request, so Unesco temporarily filled the gap and financed planning and evaluation schemes plus three missions to obtain fugitive baseline data on teacher attitudes, cognitive and psychomotor behavior of first graders, and teacher-pupil verbal interaction patterns. In 1972 an external evaluation unit was created with World Bank loan funds. United States Agency for International Development, in a contract administered by the Academy for Educational Development, offered first, consultants to the fledgling evaluation unit and later a permanent field evaluator. By 1974, Belgium and West Germany, as well as the U.S., were sending full-time evaluation specialists in the fields of pedagogical, economic, technical, and management evaluation. Resource backstopping from the Academy for Educational Development/U.S.A.I.D., and from Stanford and Liège Universities provided consulting and computer support.

### Maintenance

Unless adequate provision is made for ***maintenance*** of the fragile material, no project involving media hardware has a prayer for success, especially in a tropical country where communication is difficult, transportation is unsure in the rainy season, and local repair facilities are uncertain. In an effort to reduce need for maintenance in the first place, Ivory Coast placed an order with the *Centre électronique de France* for specially conceived "tropicalized" TV receivers. 3,000 sets, costing $300 apiece, have been installed in elementary school classrooms. In front of each set is a locked control box for which the teacher keeps the key, with two knobs for simple manipulation of volume and sound control. In the back of each set is the "chassis," or another locked box to which only the traveling maintenance crews have access. It contains the depreciable elements which are easily removed and replaced when necessary. Over two-thirds of the sets are located in areas where there is no electricity. These receivers are operated by a set of 32 batteries which can be filled with water from any local source. Their useful life has been approximately 18 months. An experiment with generators was abolished due to the difficulty of manipulation as well as a questionable financial savings. The installation and maintenance tasks are assigned to a private company, *Compagnie africaine de Télévision,* (CATEL), which was founded for the specific purpose. The installations are made in new classrooms over the summer. Repairs are performed throughout the year in response to telephone calls or letters from areas where breakdowns have occurred and also according to a routing which takes into account routine checking. The fleet of repair trucks is in two-way radio contact with Abidjan, its home office. Maintenance operation and battery purchase constitute the major items (together accounting for over one-third) of the Ivory Coast annual recurrent budget for ETV. In 1973, for example, the company, CATEL, earned over one million dollars for its services. In the same year three-quarters of a million dollars were spent for battery purchase and over one-half a million dollars on import tax for the batteries.

### Out-of-School Education

The ***out-of-school education*** component is placed within the ETV global program although it involves numerous extra-ministerial contacts. This program is, again, jointly funded by Ivory Coast, France, and Unesco. Only after the elementary school pupil telecasts were under way did planning intensively begin on a component to increase the utilization of the receivers by broadcasting rurally oriented programs to adults in the evening. A coordinating committee was formed by twenty Ministries or development agencies interested particularly in rural development, with the Planning Ministry being the nominal head and the ETV Ministry taking the organizational initiative. Those with a special message to put across meet with ETV technicians; together they produce programs on such themes as infant nutrition, the rural exodus, cooperatives, soil selection, dangers of unclean water, a new national coffee policy, or the ETV operation.

The programs are broadcast evenings over the national network and reach private homes as well as the one thousand schools which in 1974 house TV receivers. In many of these schools teachers act as "animateurs" and welcome rural adults to the classroom, present the program, translate the dialogue, and lead discussions. In preparation for these tasks some teachers have been called to the ETV Complex for animateur training, and others have graduated from one of the new teacher training schools which include "animation" in their course of study; in addition, written introductions to the adult education programs and instructions for the discussion groups are printed regularly in a weekly newspaper.

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**STRUCTURAL ORGANIZATION**

The major programming and all the teacher training are done in Bouaké, 200 miles due north of Abidjan. There are located the pre- and in-service teacher training, the printing press and written materials production crew, plus the TV studios and TV production staff. The Director-General of the ETV Complex in Bouaké works under the Elementary School Director in Abidjan. The Director-General has three services under his direct supervision: an audio-visual department, a feedback or internal evaluation service, and a "polythèque" (library), all three funded jointly by Ivory Coast, France, and Unesco.

The ***audio-visual section*** of the ETV program runs a closed-circuit TV network for teacher training, and handles the various requests for audio-visual materials on loan.

The ***feedback service*** provides short-term information mainly to the pupil program production crew and the in-service teacher training authorities. Their activities combine systematic classroom observation and periodic pupil achievement testing in the Bouaké area. They also organize field feedback by utilizing a cadre of fifty pedagogical advisors stationed throughout the country as TV classroom observers on a part-time basis. Where the ***external*** evaluation unit concerns itself more with long-term, summative evaluation on an overall project level and with responsibility toward external funding agencies as well as Ivory Coast, the ***internal*** evaluation service performs a more formative function of rapid feedback collection to improve learning and teaching, answering directly to the program operations center, Bouaké.

Finally, the ***polythèque*** consists of a book, film, and teaching materials library serving the TV production and the teacher training sectors.

An administrative officer helps the Director-General supervise four components of the ETV Complex at Bouaké:

- teacher training
- program production
- in-service teacher training
- written materials production.

***Teacher training schools*** for elementary education were modified and expanded when the ETV program was initiated. Presently there are seven one-year teacher training schools in the country (none in the capital) and one two-year institution (in Bouaké). Students are selected on the basis of competitive written and oral exams after having successfully completed the first cycle (four years) of secondary schooling. The two-year school recruits from among experienced teachers. The new curricula include group dynamics, modern mathematics, audio-visual training, French language, civic instruction, pedagogy, some artistic expression, sports, initiation to scientific concepts, and a smattering of economics and African history. Members of the faculty are more often French technical assistants (Unesco experts in the two-year training school) than nationals. A stint of practice teaching is required. Graduating students are accredited as teachers subject to passing a practicum exam during their first year of actual teaching.

The TV studios and accessory facilities (carpentry, design, animation, editing, etc.) for ***program production*** are located close by the teacher training schools, thus offering the advantage of student familiarity with the production process. In two studios, equipped with Thomson cameras, the staff produce separate film and sound tracks which are synchronized in the editing room. In a third studio the staff have begun to work with video-tape equipment. Marionnettes are used and are very popular with pupils. French designers prepare the visual materials for all telecasts. Teams of pedagogues, both French and Ivorian, work closely with producers to devise the totality of the programs in Ivory Coast for all levels of TV instruction. No material is imported as a package for use; however, many bits and parts from foreign educational films are utilized in developing thematic program sequences.

The elementary school curriculum through TV is not only created in-country; it represents a major change from previous curricula. For instance, modern mathematics have been introduced for the first time. The French language is used for all programs (it is the official language of the country) and language training is a vital component of the instructional program. Rather than trying to adapt existing textbooks published in France and utilized by several of the former Francophone colonies, the ETV program produces

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**ORGANIZATION OF ETV PROGRAM**

paperback workbooks or picture books based exclusively on the Ivorian situation. The ETV Ministry sub-contracted to the Applied Linguistics Department of the Abidjan University to do several research studies on the basic vocabulary useful to Ivorian youngsters and on the fundamental difficulties heretofore met in French language instruction. The sound systems of the two local tongues spoken by the majority — Baoulé and Bambara — are catalogued so that language instructors can recognize speech difficulties due to mother tongue interference. The language program is introduced through means of dramatizations of simple dialogues. The milieu in these telecasts is intentionally a child's milieu: for example, a girl helps her mother shopping in the local market, a boy accompanies his uncle to the train station, and two boys go hunting in the bush.

Besides math and French, the third major subject area, "éducation de base," consists of various types of individual expression: bodily, artistic, and musical. Rhythmic exercises and games are devised for physical education; songs in French and in a variety of national languages are sung and taught over the air; demonstrations of pupils modeling clay, making paint, drawing, playing home-made instruments are shown to delight and inspire young spectators. These subject areas which stimulate creative initiative represent some of the most refreshing and worthy elements of the new curriculum: they are designed to enhance child development and to deemphasize rote learning and the passive repetition of models.

**In-Service Training**

It is relatively easy to familiarize teachers and teacher trainees with the new precepts and new techniques of TV instruction amidst a general educational reform if one has them as a captive audience at the Complex. It is much more difficult to retrain teachers in the field. ***In-service training*** for the 11,000 public and private school elementary school teachers is carried out by a multi-media approach using television, radio, and the press.

Television programs include first, a WEEKLY TWO-HOUR PRESENTATION ("école normale permanente", or ENP). The broadcast takes the place of Wednesday afternoon classes; consequently it adds no time burden onto the teachers though it reduces the pupil time in session. Teachers congregate in one of the TV-equipped rooms in their school. These weekly programs often present a round-table discussion between teachers and ETV Complex tele-speakers: the teachers discuss their classroom difficulties (such as the teaching of reading), and the tele-speakers suggest solutions. Actual class behavior filmed for the program illustrates the points under discussion. Following each subject presentation, the viewing teachers are urged to discuss what they have seen, and to designate a rapporteur to prepare the group's conclusions which are sent to the Complex. In this way it is hoped that the field teaching staff will pay close attention to the pedagogical support offered through the TV, will air their individual reactions to the subjects discussed, and will communicate their thoughts and their wants back to the project center.

The second television program devoted to in-service teachers consists of a DAILY REMINDER to each of the grade teachers of points to cover and difficulties to address ("journal des maitres"). The daily program is added to the teacher schedule and begun after classes at 5:15 P.M. These short programs are always live, unlike most of the ENP. They include announcements and last-minute modifications in program progressions. The daily program also devotes time to answering specific questions from the field. For example, a teacher had written in to complain that he could not teach art because he had not received any pedagogical materials such as paint sets or boxes of colored pencils. In response a ten-minute sequence was broadcast where different recipes were described for developing paint out of locally available resources: charcoal, termite mounds, chalk or berries crushed, sifted and mixed into a paste by adding water.

The content of each ENP TV program is prepared for RADIO BROADCAST simultaneously in areas where there is as yet no TV coverage (nine out of fifty-six elementary school inspectorates).

Weekly ARTICLES IN THE PRESS also treat all the subjects under instruction and introduce more general pedagogical notions as well. The articles appear regularly in the Party weekly "Fraternité-Hebdo" to which the teachers are encouraged to subscribe out of civic duty. Distribution delays to remote areas, however, render this medium less useful.

The ETV project authorities realize the isolation from which bush teachers suffer. They try to alleviate this feeling by inviting to Bouaké for WORKSHOPS groups of school administrators and teachers beginning their TV teaching careers. For several weeks every August and September the project center presents programs explaining the principles behind the reform and the contents of each grade curricula, and shows the production and teacher training facilities to the trainees. On short holidays during the year teachers, school principals, or pedagogical advisors are also brought to the Complex for workshops on observation techniques and on testing programs to be applied in the field.

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**WRITTEN MATERIALS PRODUCTION**

Another way the ETV project authorities try to make the field teacher aware of the educational reform and help him with the new TV component is through the development and distribution of ***written documents.*** In 1970 the Canadian government agreed to finance the preparation and printing of teacher guides and pupil workbooks. After three operational years this project has become a minor publishing company producing 200 tons of documents annually. It is the responsibility of the Ivory Coast to distribute these documents. To prepare these documents a team of about two dozen Canadian pedagogues, seconded by Ivorian counterparts, works in group sessions with the French and Ivorian pedagogues who have prepared the TV scripts. In these documents the TV lessons are presented and expanded, along with a series of exercises for follow-up classroom use and suggestions for further study. A list of recommended activities for the teacher to organize in the event of a power failure is also included. Written materials for pupils are developed, ranging from cardboard shapes used in set theory for modern mathematics to a workbook for beginners in writing. There is also a compilation of TV schoolchildren's drawings which are reproduced in color. Three to four times a year the rugged Citroën delivery trucks follow their delivery routes to the forty elementary school inspection stations, where teachers are required to pick up their school's materials. The teachers often have difficulty travelling to the inspection stations on account of long distances, poor roads, or infrequent taxi service. The distribution department realizes that deliveries to the individual schools would improve the chances of the documents arriving on time and being used, yet the cost of this alternative would be prohibitive.

**PROGRAM EVOLUTION**

The ETV program evolution has been noteworthy in four aspects: its expansion rate, the basic option taken of favoring higher teacher qualifications (and the cost consequences which ensue), personnel development (Ivorization), and project evaluation.

The telecasts during the first year of operations, 1971-72, reached approximately 20,000 first grade pupils ("cours préparatoire première année") spread over the central and southern parts of Ivory Coast. The following year the second grade was added, and first grade coverage was extended with the installation of a transmitter in the north. In this second year the pupil population receiving TV jumped to 60,000, and the teachers using TV from 450 to 1375. During the third year, 1973-74, 2425 teachers in a thousand schools taught over 100,000 pupils with the TV method. Expansion along similar lines is planned, adding one grade a year until the full six-year elementary cycle has been covered by the reform. In its present five-year plan Ivory Coast has officially promised to achieve a 100% elementary school enrollment rate by 1986; the current rate is about 55%. While most of the country

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Bulletin Number Five, "Communication Media and Technology: A Look at Their Role in Non-Formal Education Programs" by Henry T. Ingle is now being released by the Information Center and should be reaching our overseas correspondents via sea mail just after the first of the year. If you have immediate need of a copy, write to us and we'll send a copy "air printed matter."

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**PROGRAM EVOLUTION**

can now receive television signals, for technical reasons the major area to date unaffected by the TV coverage is the southwest, and plans call for its incorporation into the network in two or three years. Discussions are also being held with private schools concerning the adoption of the TV curriculum. Several private schools are already utilizing the new software (written documents including curriculum for teachers and exercises for pupils) without the TV support. The Ministry of Education is also planning some adaptation of secondary schooling to meet the needs of students prepared on six years of TV instruction.

The level of teacher qualifications and salary are vital elements in the cost of an educational system as well as in its quality. Ivory Coast has established four levels of teacher qualifications in the elementary school sector:

*teacher* (having earned a CAP, "certificat d'aptitude pédagogique" and completed approximately six years of secondary education)

*associate teacher* (having earned a CEAP, "certificat élémentaire d'aptitude pédagogique" and having completed approximately four years of secondary schooling)

*monitor* (having earned a CAM, "certificat d'aptitude de monitorat" and having completed elementary school)

*associate monitor* (having spent approximately six years in elementary school but without a further diploma).

Before the reform three-quarters of the teachers fell in the upper two categories of teachers and associate teachers. While Niger (which had inherited the same teacher qualification structure from the French) had offset TV capital expenses by retraining monitors for TV classes, Ivory Coast began, instead, to phase out its lower qualified teachers. In the words of one high Ministry official, "we were not going to put the enormous investment into TV and then settle for inferior-level teachers for its usage!" Presently, over nine-tenths of the TV teachers are teachers or associate teachers. If the more qualified teachers produce a higher level of pupil learning there could be a justification for the high costs incurred. Data on teacher qualifications are being collected on a systematic basis and will be correlated with the results of pupil achievement testing.

While it is too early to assess whether Ivory Coast's option to favor highly trained teachers is cost effective, one can nonetheless calculate already the exact cost of teacher salaries. The 1970 monthly salary of a full teacher after ten years of service was $310, an associate teacher's $185, a monitor's $150, and an associate monitor's $115. Obviously the relative stressing of the top levels has a great impact on the aggregate teacher salary figure since teachers' salaries represent one of the major costs in any formal educational system. Teacher costs can also be expected to increase with periodic pay raises. In 1974, for instance, all civil servants benefited from two successive pay increases, and TV teachers obtained an average of 13% rise over their previous salary level.

Of the four hundred professional staff members in the Abidjan and Bouaké program approximately a third are foreign technical assistants. All the directors of major departments are Ivorian, and are usually seconded by French advisors. Ivorian counterparts are assigned to all the work sectors of production, teacher training, drafting written materials, feedback, etc. The Ivorians are almost exclusively former teachers who have been transferred within their civil service affiliation. While a master plan of Ivorization was laid out in the initial stages of the project, the process has fallen behind schedule; training and hiring of national staff is inadequate and Ivory Coast is requesting extensions of the levels of outside funding beyond previous expectations. Ivorian personnel in the project received a major boost when the President named a Secretary of State for ETV. Until this definitive step was taken, the ETV project had floundered as four Ministers of Education successively oversaw the crucial initial project development.

**ETV Project Evaluation**

A final area of program evolution is ETV project evaluation. As was mentioned, there was no evaluation department at the beginning of program operations; gradually an international team of evaluation specialists has been assembled. Documented results are now appearing regularly from the External Evaluation Unit. Subjects covered in past reports are:

- teacher attitudes toward the ETV project
- cognitive and psychomotor skill levels of first graders
- student characteristics and participatory behavior at the ETV teacher training school
- the cost of educational television in Ivory Coast
- the progression of TV teachers 1971-74
- the production of programs at the ETV Complex.

Reports nearing completion include:

- the out-of-school ETV program as viewed in four villages
- pupil achievement in French and mathematics.

All reports, save one, have been written in French only and are distributed by the ETV Secretary's office in Abidjan.

A separate article discussing the various evaluation findings in Ivory Coast will be presented in the next issue of *Instructional Technology Report* so that our readers will then have before them the full cycle of program stages: the educational situation before the reform; the genesis of the ETV program; the structural organization of the project; the evolution of the audience, of basic options, and of personnel development; finally, evaluative findings in the economic, technical, and pedagogical spheres.

*(Continued in next issue)*

## INNOTECH PROJECTS TEST NEW WAYS TO PROVIDE MASS PRIMARY EDUCATION

In *INNOTECH NEWSLETTER*, September 1974 (Vol. 2 No. 12) two major projects of the SEAMEO Regional Center For Educational Innovation and Technology, Saigon, are described. The newsletter comments particularly on the roles of teachers in these projects as follows:

> ***Project*** IMPACT (Instructional Management by Parents, Community and Teachers), is a long-term research program in primary/elementary education in which the majority of learning experiences represent non-teacher learning. Self-instructional modules, parental monitoring of the learning process, older student tutoring and specialized instruction by volunteer community members provide the core of the instructional process. The teacher's role has changed primarily to one of being a manager and coordinator of learning experiences, working out of a Community Learning Center. The title of "teacher" has been discarded in favor of the title of "Instructional Supervisor" who may in time become responsible for some 200 students rather than the present 30-40.
>
> ***Project*** RIT is a companion to IMPACT in its effort to seek ways for providing mass primary education to children in this region. Its main focus is on Reducing Instructional Time (RIT) so that more students can avail themselves of present school facilities and personnel. The reduction in time being sought refers both to the amount of time it takes a student to learn and to the amount of time that a teacher must be in a given classroom. Self-instruction, peer tutoring and review, student-directed discussions and games, simulation exercises, etc. are among the types of non-teacher instruction being employed (more correctly, "minimal-teacher instruction"). Typically, the teacher's role has become one of previewing and explaining the instructional process to the children, providing minimal monitoring during learning, evaluating progress via post-tests and providing remedial help.

The featured subject in this issue of INNOTECH NEWSLETTER is "using non-teacher instruction to maximize teacher effectiveness." One example of such activity is provided in the discussion of INNOTECH's approach to its staff problems in its own training programs. To quote the article:

> "The ***Three-Month Training Program*** which is held three times each year at INNOTECH is directed toward providing key educators in the Region with skills in educational planning and decision-making. Two years ago the Center's research programs were badly hampered because professional staff time was not available for research; 65 percent of staff time was being used for training. By eliminating lectures as the primary means of learning through the use of self-instructional modules, small group activities, slide-tape practices, individual projects, enrichment seminars, tutorials, etc., we were able to reduce professional staff time to 20 percent while maintaining a quality training program. The role of the training staff has become one of material preparation and revisions, managing the self-paced learning sequence, evaluation and tutoring, monitoring individual and small-group activities and conducting large group enrichment seminars and discussions."

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